

Workshop Announcement

New directions in Adaptive Neurotechnologies: EEG and Related Directions

Hosted by the WaterlooBCI Lab and Guger Technologies OG (g.tec)

Venue: Room-6004, Engineering 5
Waterloo, Ontario, Canada

Date: July 16th, 2016



About the Workshop

Research groups all over the world have been exploring new directions in EEG research relevant to the understanding and treatment of disorders. Brain-Computer Interfaces (BCIs) provide a direct connection from the human brain to a computer. BCIs can translate brain activity into control signals for numerous applications, including tools to help severely disabled users communicate and improve their quality of life. BCIs have been explored to restore movement, assess cognitive functioning, and provide communication and environmental control.

Very recent work has extended BCI technology to help persons with stroke, disorders of consciousness (DOCs), and other patients. We will provide interactive, hands-on demos of new EEG technologies. Attendees will learn about different methods and how they can be extended to provide real-world help for patients. We will also present new work using non-invasive stimulation to help persons with visual disorders.



Speakers and hosts:

Ning Jiang, Ph.D. (University of Waterloo) has been developing patient-driven BCI system for motor function rehabilitation. His work is currently focusing on low-latency motor intention detection from non-invasive EEG. His work on topic has been nominated 4-years in a row in the BCI Award competition (2012-2015).

Ben Thompson, Ph.D. (University of Waterloo) studies human visual cortex development and plasticity, particularly in promoting plasticity to improve outcomes for patients with brain-based visual disorders. This has led to an interest in amblyopia, and to the development of two new and highly promising approaches to treatment.

César Cesar Marquez Chin, Ph.D. (Toronto Rehabilitation Institute-University Health Network) conducts research and development of invasive and non-invasive BCI systems to restore function after paralysis.

Brendan Allison, Ph.D. (Guger Technologies OG) has been an active BCI researcher for over 20 years. His recent work involves BCIs for persons with stroke and DOC.

For more information please contact:
Brendan Allison: allison@gtec.at
Ning Jiang: ning.jiang@uwaterloo.ca

Program Overview:

- 13:00 Welcome
- 13:15 N. Jiang: Low-latency detection of motor intentions through non-invasive EEG;
- 13:45 B. Thompson: Enhancing visual cortex plasticity with non-invasive brain stimulation to recover vision;
- 14:15 Coffee break;
- 14:30 C. Chin: BCI-triggered functional electrical stimulation therapy for upper limb rehabilitation in chronic severe hemiplegia
- 15:00 B. Allison: BCI technology and new directions
- 15:30 Hands-on demonstrations: intendiX, recoveriX, mindBEAGLE, nautilus
- 16:30 Final questions & discussion

Attendance is free of charge, but registration is required because space is limited.

Workshop

New directions in Adaptive Neurotechnologies: EEG and Related Directions

Hosted by the University of Waterloo and Guger Technologies OG (g.tec)

Venue: Room-3052
Engineering 5
Waterloo, Ontario, Canada

Date: July 16th, 2016

Registration Form:

Please fill in and fax back (0043-7251-22240-39) or email to Michaela Pichler: pichler@gtec.at

Venue: _____

Date: _____

Name & Degree (as to appear on workshop materials):

Institution/Affiliation:

Department:

Business Address:

City: _____

State: _____ Zip: _____

Business Phone: _____

E-mail Address (important for receiving the confirmation)



Or simply scan to register at [evenbrite!](https://www.evenbrite.com)

